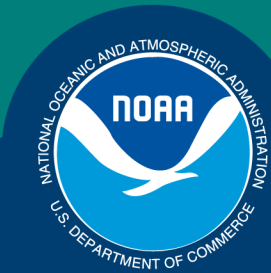


Science, Service, Stewardship



Overview of Drift Gillnet Fishery and Regulations

Stephen M. Stohs
Southwest Fisheries Science Center
Stephen.Stohs@NOAA.gov

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SERVICE



Overview

- DGN fishery development
- History of regulation and DGN attrition
- 2001 Leatherback Closure impacts
- Unintended consequences of unilateral conservation regulation
- Research to explain attrition

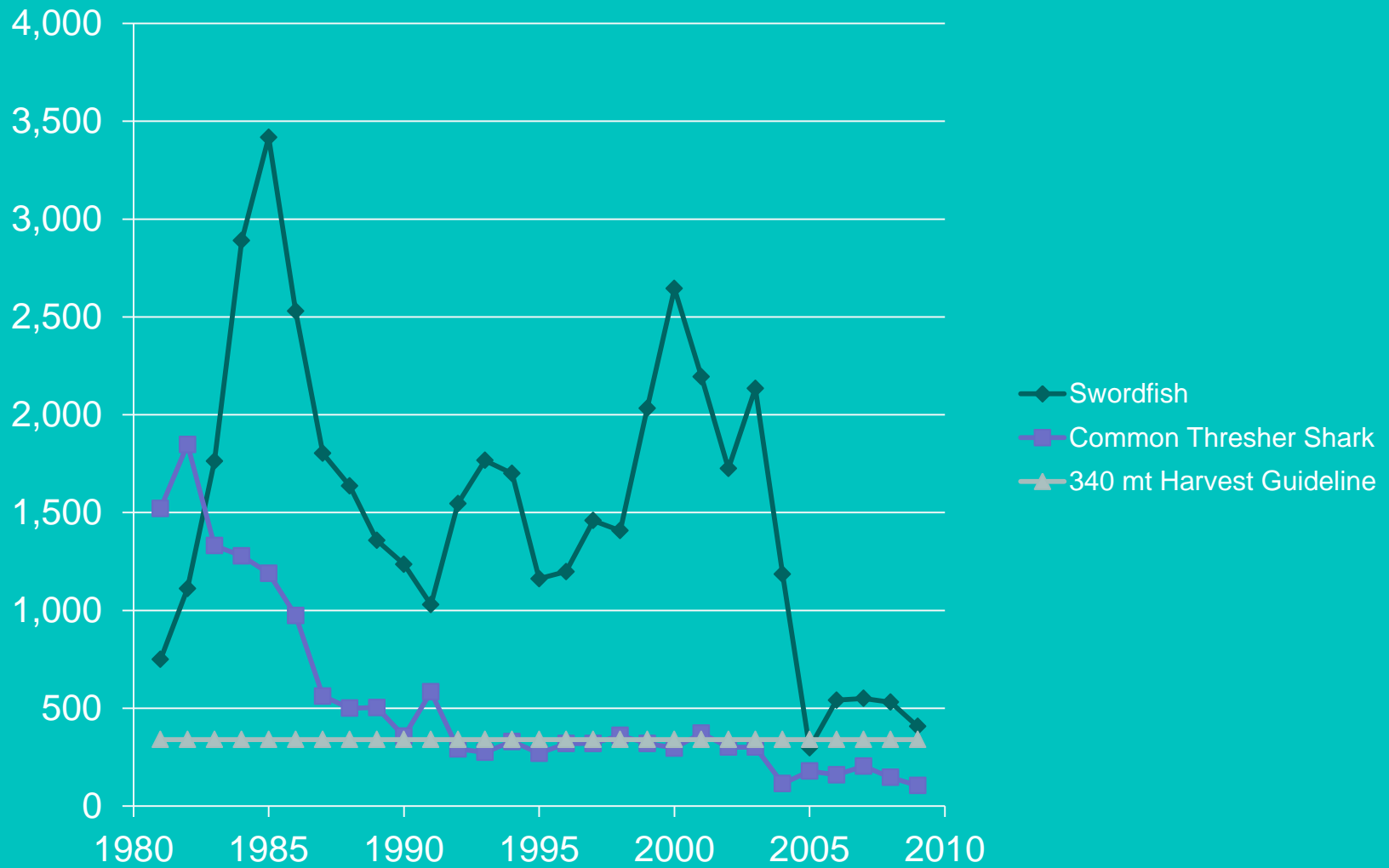
U.S. West Coast Swordfish Fishery

- Declining participation
- Declining effort, landings and revenue



Averages	Vessel #	Total Revenue
1994-2000	120	\$4,570,193
2001-2007	55	\$2,125,498

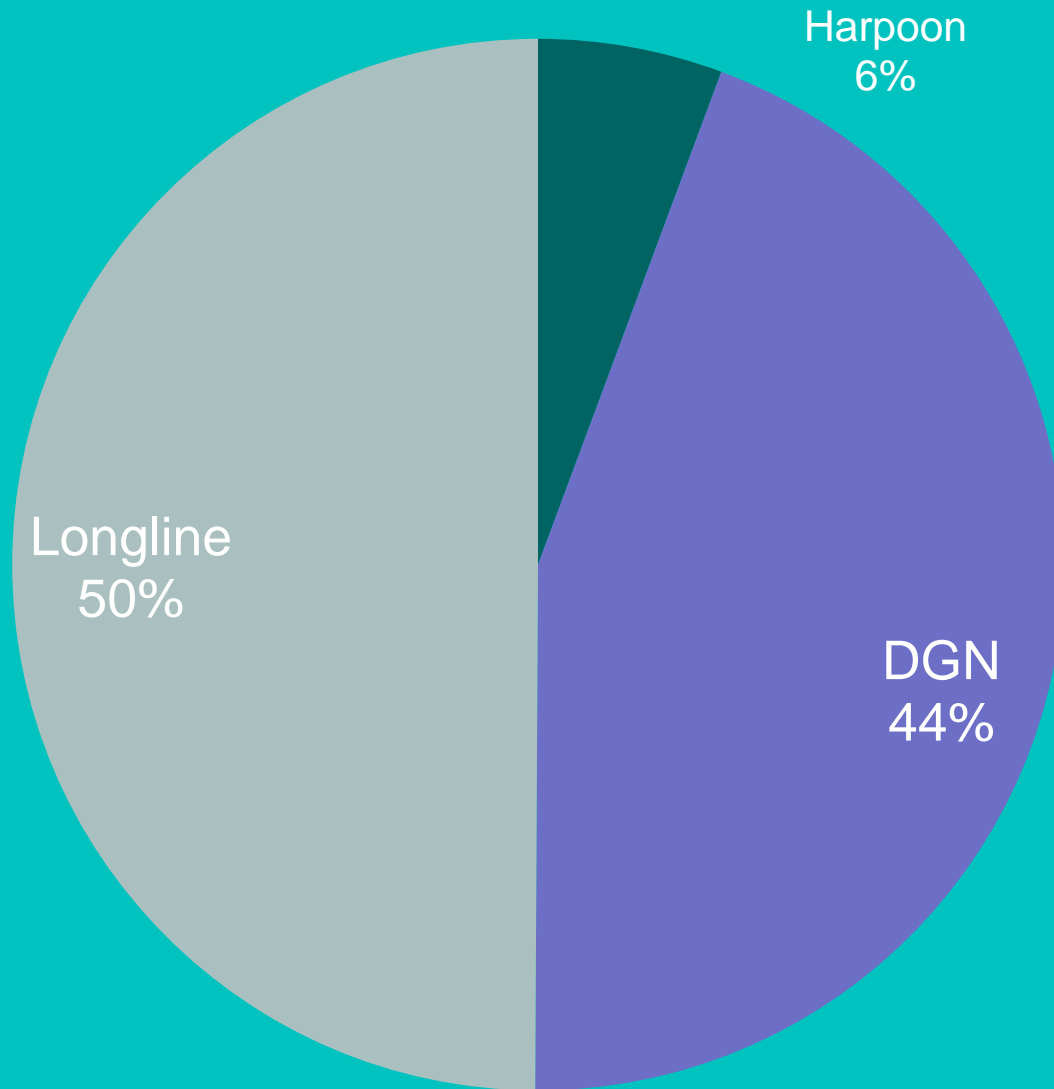
West Coast commercial landings of common thresher shark and swordfish, all gears (round mts)



West Coast nominal commercial ex-vessel revenues of common thresher shark and swordfish, all gears



Shares of West Coast Swordfish Landings by Gear, 1994-2000



DGN Fishery Development

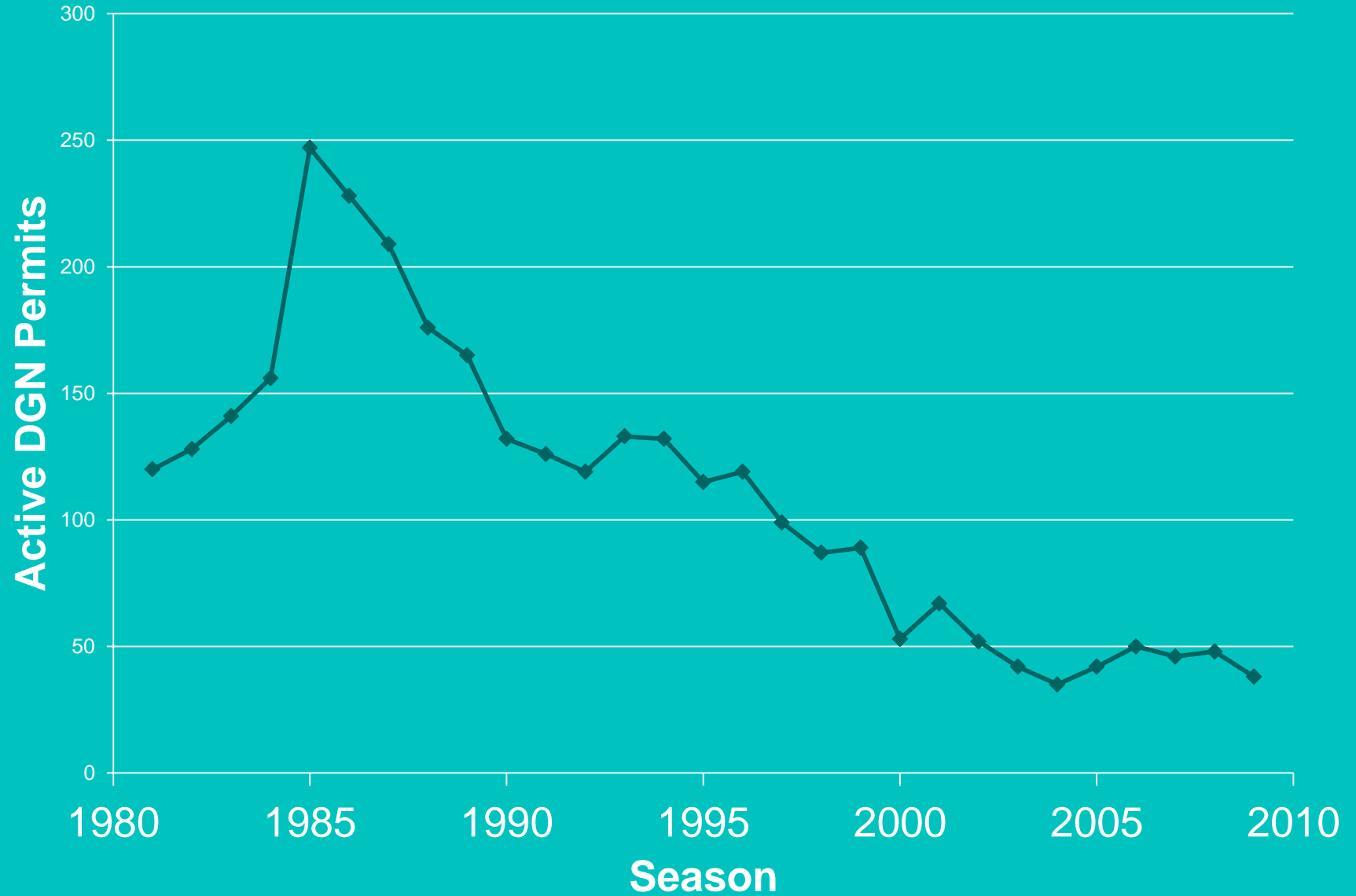
- The DGN fishery developed beginning in the late 1970s
- Initial target species was common thresher shark
- By the mid-1980s, the target shifted to swordfish
- Attrition has steadily occurred since the mid-1980s



Regulatory History

- CDFG limited entry permit system (1980)
- Permit issue moratorium (1982)
- 75 mile area closure to protect CTS (1986)
- NMFS MMPA observer program (1990)
- MMPA gear restrictions: pingers, 36-foot extenders, mandatory skipper workshops (1997)
- Leatherback closure (2001)

Numbers of Active DGN Permits



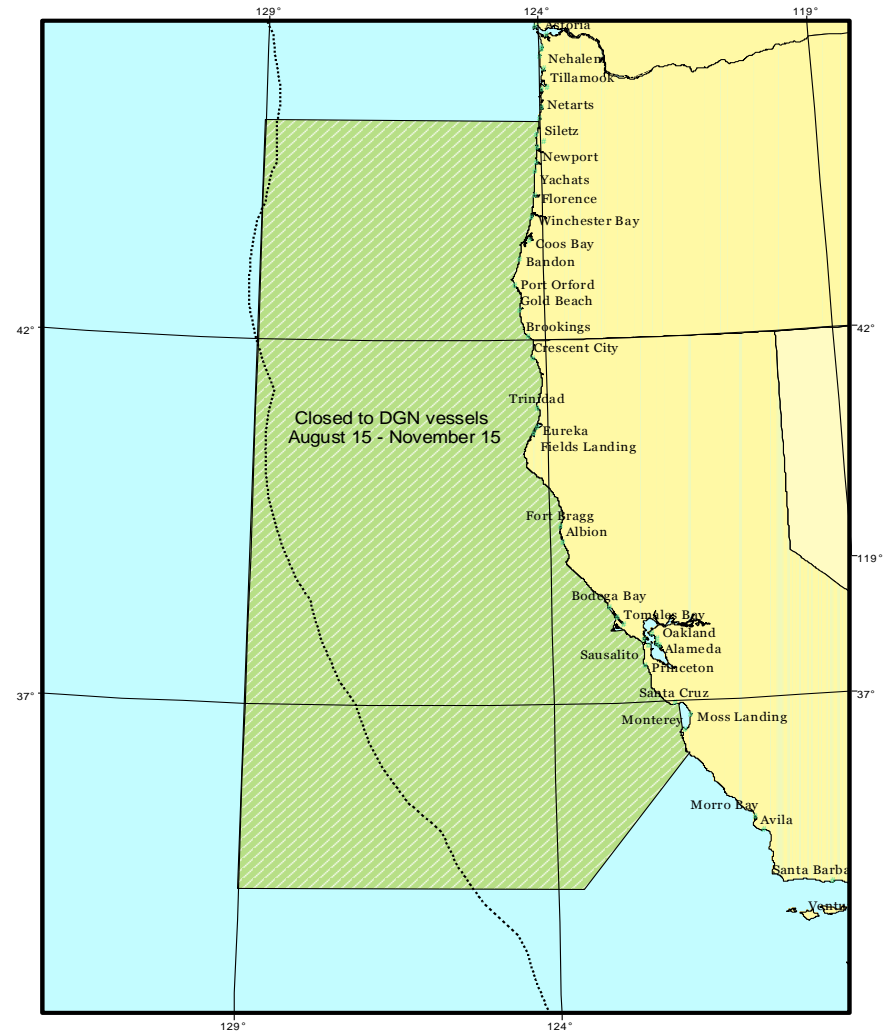
DGN effort





Leatherback Closure

- NMFS established time-area closure in 2001 to reduce leatherback bycatch
- Annual closure 8/15-11/15
- No leatherback mortalities observed in fishery since the closure (1 interaction in 2009, released alive)



Research to Explain Attrition

- How did the Leatherback Closure affect attrition?
- Attrition can be due to many other factors over time :
 - Limited entry permit system
 - Import prices
 - Fuel prices
 - Regulatory changes in other fisheries
- The 2001 DGN Leatherback Closure offers an implicit control



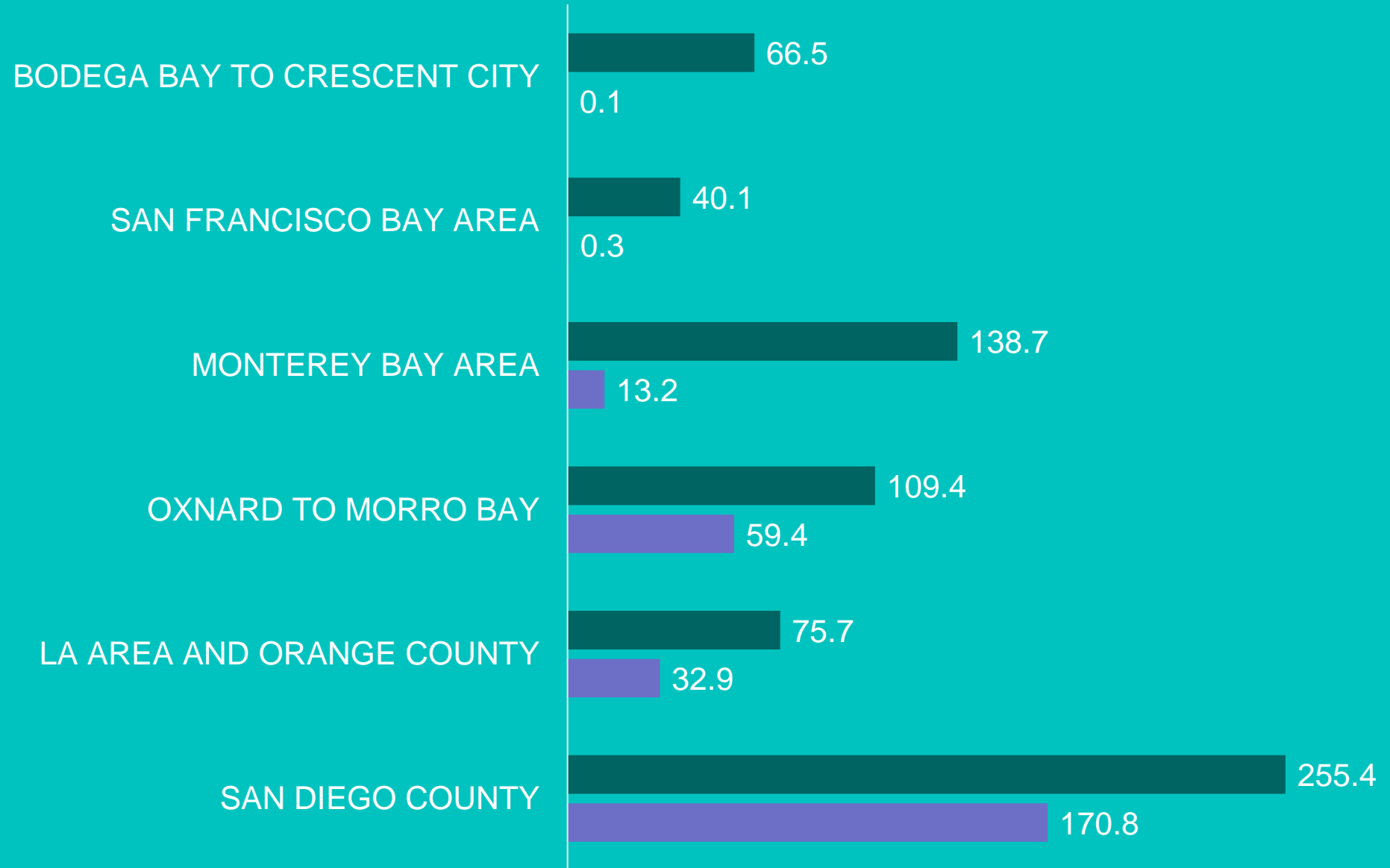
Modeling Strategy

- Track the history of participation of 67 DGN vessels from 1994-2010
- Explain the rate of exit from the fishery in terms of home port proximity to the Leatherback Closure Area and other relevant factors
- Other factors considered include skipper age, date vessel entered fleet, time closure became effective, vessel-level landings and revenues, and participation in other HMS fisheries

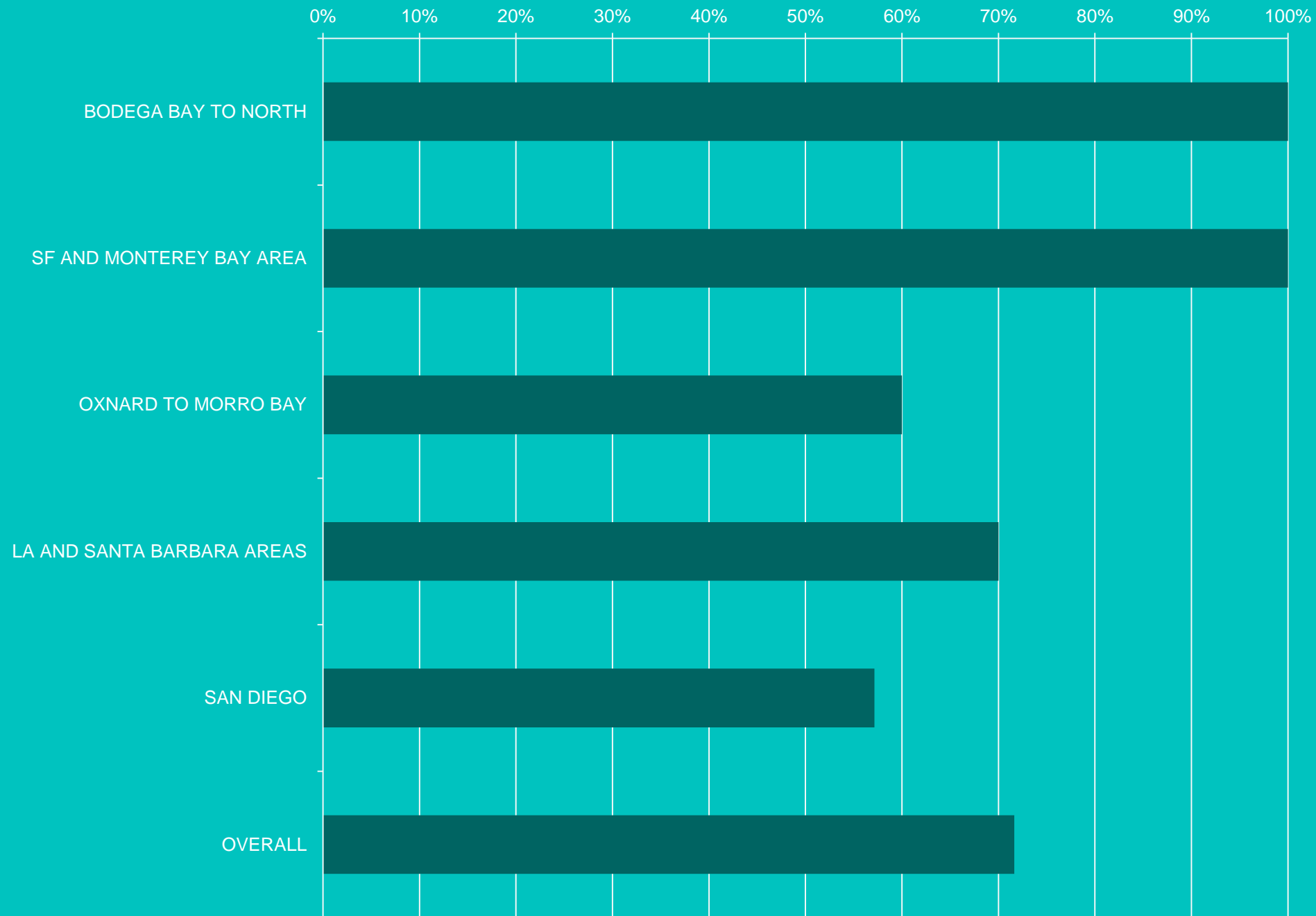
Average Annual DGN Swordfish Landings by Region

Round Metric Tons

■ 1994-2000 ■ 2001-2010



DGN Vessel Attrition 1999-2010 by Home Port Location



Research Significance

- The swordfish consumer market is global
- The North Pacific swordfish stock is considered healthy, and can potentially be exploited by other nations
- Unilateral conservation regulation of U.S. fisheries may drive the sea turtle bycatch problem off shore
- U.S. production under best conservation practice makes it easier to ask other nations to follow similar approaches
- Conservation innovation requires participation
- West coast consumers, fishing communities and downstream industries benefit from fresh, local product supply

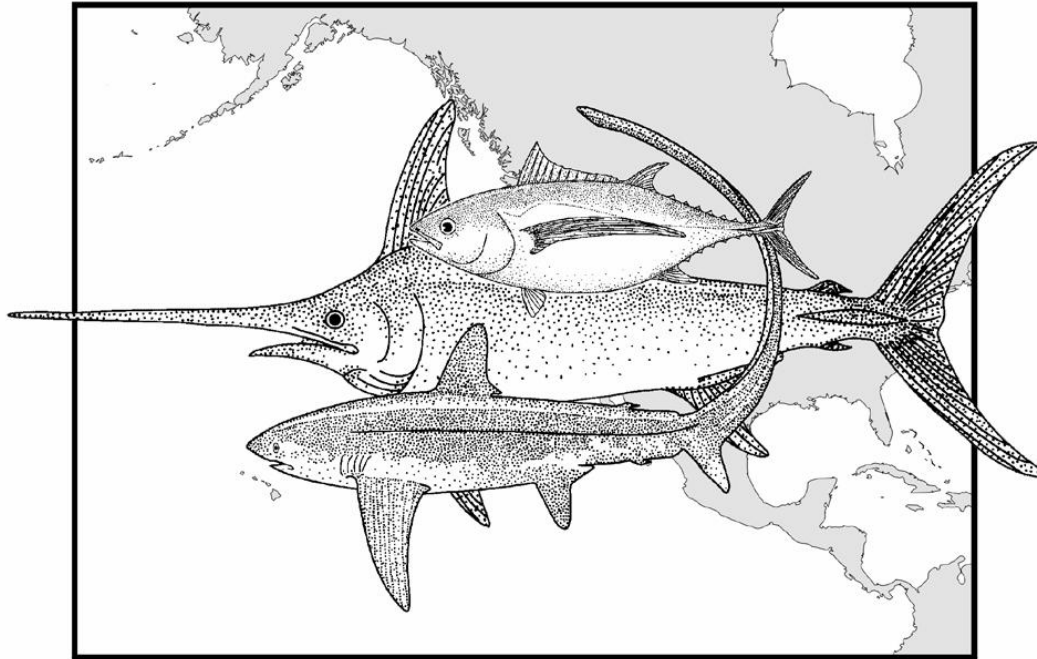


Summary

- The history of the DGN fishery suggests attrition led to reduced West Coast swordfish supply
- The Leatherback Closure appears to be a key factor
- Attrition from U.S. participation in swordfish fisheries may reduce conservation opportunities
- U.S. swordfish fishermen, fishing communities and consumers lose access to the resource



Thank you for listening!



Southwest Fisheries Science Center
Fisheries Resources Division